March 14, 2002

Harding ESE Project No. 55234.5

Mr. Todd Borci
Remedial Project Manager
USEPA Region I
Office of Site Remediation and Restoration
One Congress Street, Suite 1100
Boston, MA 02114

RE: Precondition Sampling Work Plan
Proposed Building Decommissioning Activities
Melt-Pour and Four Bunker Buildings
J-3 Range, Camp Edwards, Massachusetts

Dear Mr. Borci:

On behalf of Textron Systems Corporation (TSC), Harding ESE, Inc. has prepared this work plan for precondition sampling associated with the decommissioning of the Melt-Pour and four former explosives magazine buildings on the J-3 Range. Building systems such as septic tanks, drywells, and above ground storage tanks (ASTs) will also be emptied and left in their current functional condition as part of the decommissioning activities. This work plan describes only the sampling activities to establish prior site conditions and assess disposal options.

Sampling to establish prior conditions are described below:

1. A limited Asbestos Survey will be conducted within the Melt-Pour Building (shown on Figure 1, attached). This survey will be conducted in order to identify asbestos or asbestos containing material (ACM). The survey will include the following activities, all of which will be conducted by a licensed asbestos contractor.

    - The composition of pipe insulation and ceiling fiberboard present in the Melt-Pour building will be evaluated to determine whether they contain asbestos.

    - Up to 10 bulk samples of potential asbestos-containing materials will be collected from the Melt-Pour building pipe insulation and ceiling fiberboard.

    - Samples will be analyzed using polarized light microscopy on a 14-calendar day turn-around.

    - Field measurements will be taken of potential ACM to determine the linear footage or surface area, pending analytical results.

These activities will be conducted strictly to identify the possible presence of asbestos or ACM. Removal or abatement of any asbestos is outside this scope of work.

2. Pre-condition wipe samples will be collected for explosives analysis by modified Method 8330 from the floor and walls of the Melt-Pour Building and four explosive magazine buildings (locations shown on Figure 1, attached) and analyzed for explosives. Wipe samples will be collected from an area of 100 cm^2 using a cut gauze pad containing acetonitrile. The wipe sampling activities will include:

   - Pre-condition wipe samples will be collected from the floor and one wall (selected based on proximity to loading operations) in each of the 4 bays and hallway in the Melt-Pour building (10 samples);

   - Wipe samples will be collected from inside the duct work above the former melt kettle in Melt-Pour building (2 samples);

   - Up to four additional wipe samples may be collected from the Melt-Pour building, as deemed necessary, based on observed field conditions;

   - Wipe samples will be collected from one wall and the floor in two explosive magazine buildings (total of 4 samples);

   - Wipe samples will be collected from two of the walls and two areas of the floor in the underground explosive magazine (4 samples); and

   - Wipe samples will be collected from two walls and the floor in each of 4 bays in the explosive magazine building (total of 12 samples).

This sampling plan results in a total of 36 wipe samples. An additional 4 samples will be collected during the wipe-sampling program (as duplicates from immediately adjacent to the previous sampling location for QA/QC purposes). This results in a maximum total of 40 wipe samples.

All wipe samples will be submitted for laboratory analysis for explosives by USEPA Method 8330 on a regular turn-around basis (30 calendar days).

1. One liquid or sediment sample (depending on visual observation) will be collected from the 1,000-gallon septic tank located at the Administration/Workshop building and analyzed for "Phase I" analytes and disposal characterization. Tables 1 and 2 identify the analytical parameters for the Phase I analytes and disposal characterization, respectively. Limited clearing to access the septic tank location may be required.

A septic tank located at the X-Ray/Assembly building was sampled and analyzed by the NGB and their contractor AMEC for Phase I analytes in May of 2001, with data presented within the December 20, 2001 Additional Delineation Work Plan #2. TSC will utilize these data for disposal characterization.

2. One grab sediment sample will be collected from a drywell located southwest of the Administration/Workshop building for Phase I analytes and disposal characterization. Limited clearing to access the drywell location may be required.

   AMEC has previously collected samples from two drywells, one located at the Melt-Pour building (March 2001) and one located at the northwest corner of the Administration/Workshop building (May 2001). These samples were analyzed for Phase I analytes, and data are presented in the December 20, 2001 Additional Delineation Work Plan #2. These data will be used for disposal characterization.

3. UXO construction support will be provided by USA Environmental for activities conducted down range of the administration building, including the Melt-Pour building. USA will also provide a backhoe and operator to remove the septic tank and drywell covers for these pre-condition sampling activities.

This precondition sampling will be conducted during two days following the completion of the Drum Removal activities (discussed under separate cover). We are currently awaiting a response from the NGB and USACE on the schedule availability to conduct these activities so as not to interfere with the other ongoing site investigations or munitions surveys at the J-1, J-3, L, and Old H Ranges.

The project schedule for this precondition sampling assumes a 30-calendar day turnaround of analytical data following the shipment of the samples. TSC will then provide a summary letter of the field program, a table of analytical data, and laboratory results within 45 days of receiving the analytical data.

Please contact David Heislein at 781-245-6606 with any comments on the proposed course of action and the potential schedule to conduct these activities.

Very truly yours,
HARDING ESE, INC.

David Heislein
Associate Project Manager

Enclosures: Figure
Tables

cc: Ben Gregson, IAGWSP Office
Dave Hill, IAGWSP Office
Heather Sullivan, USACE
Mary Ellen Iorio, USACE
Gina Tyo, USACE
LTC David Cunha, Deputy Post Commander
Len Pinaud, MADEP Southeast Region
Mark Panni, MADEP Southeast Region
Herb Colby, AMEC
Dave McCabe, Textron Inc.
Dann Sullivan, Textron Systems
Harding ESE Project Files

Table 1
Phase I Analytes
Precondition Sampling Workplan
J-3 Range

Method	Analyte	Method Detection Limit
350.2M	NITROGEN, AMMONIA (AS N)	1.5
353.2M	NITRATE/NITRITE (AS N)	0.0043
365.2	PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4	1
8151	2,4 DB	54.3
8151	2,4,5-T (TRICHLOROPHENOXYACETIC ACID)	6.01
8151	2,4-D (DICHLOROPHENOXYACETIC ACID)	47.6
8151	3,5-DICHLOROBENZOIC ACID	64.8
8151	4-NITROPHENOL	256
8151	ACIFLUORFEN	8.41
8151	BENTAZON	26.8
8151	CHLORAMBEN	4.37
8151	DALAPON	105
8151	DCPA (DACTHAL)	5.2
8151	DICAMBA	6.25
8151	DICHLOROPROP	97.2
8151	DINOSEB	34.1
8151	MCPA	4823
8151	MCPP	4956
8151	PENTACHLOROPHENOL	1.78
8151	PICLORAM	4.5
8151	SILVEX (2,4,5-TP)	5.26
8260LS	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.108
8260LS	TERT-BUTYL METHYL ETHER	0.116
8330N	1,3,5-TRINITROBENZENE	17.84
8330N	1,3-DINITROBENZENE	10.19
8330N	2,4,6-TRINITROTOLUENE	17.27
8330N	2,4-DIAMINO-6-NITROTOLUENE	42.78
8330N	2,4-DINITROTOLUENE	20.21
8330N	2,6-DIAMINO-4-NITROTOLUENE	28.42
8330N	2,6-DINITROTOLUENE	53.59
8330N	2-AMINO-4,6-DINITROTOLUENE	19.57
8330N	2-NITROTOLUENE	19.38
8330N	3-NITROTOLUENE	15.07
8330N	4-AMINO-2,6-DINITROTOLUENE	22.21
8330N	4-NITROTOLUENE	28.85
8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE	23.65
8330N	NITROBENZENE	13.35
8330N	NITROGLYCERIN	1641
8330N	OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TET	17.59
8330N	PENTAERYTHRITOL TETRANITRATE	1209.4
8330N	PICRIC ACID	55.42
8330N	TETRYL	28.48
CYAN	CYANIDE	0.29
IM40HG	MERCURY	0.0055
IM40MB	ALUMINUM	5.2
IM40MB	ANTIMONY	1.4
IM40MB	ARSENIC	1
IM40MB	BARIUM	5.4
IM40MB	BERYLLIUM	0.2
IM40MB	BORON	2.5
IM40MB	CADMIUM	0.1
IM40MB	CALCIUM	96.1
IM40MB	CHROMIUM, TOTAL	0.3
IM40MB	COBALT	1.4
IM40MB	COPPER	0.8

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Method	Analyte	Method Detection Limit
IM40MB	IRON	5.6
IM40MB	LEAD	0.4
IM40MB	MAGNESIUM	97.2
IM40MB	MANGANESE	0.4
IM40MB	MOLYBDENUM	0.5
IM40MB	NICKEL	1.1
IM40MB	POTASSIUM	224
IM40MB	SELENIUM	1
IM40MB	SILVER	0.5
IM40MB	SODIUM	116.7
IM40MB	THALLIUM	1.2
IM40MB	VANADIUM	1.4
IM40MB	ZINC	3.4
OM31P	ALDRIN	0.273
OM31P	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.238
OM31P	ALPHA ENDOSULFAN	0.264
OM31P	ALPHA-CHLORDANE	0.285
OM31P	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.263
OM31P	BETA ENDOSULFAN	0.524
OM31P	DDD (1,1-BIS(CHLOROPHENYL)-2,2-DICHLOROE	0.534
OM31P	DDE (1,1-BIS(CHLOROPHENYL)-2,2-DICHLOROE	0.523
OM31P	DDT (1,1-BIS(CHLOROPHENYL)-2,2,2-TRICHLO	1.63
OM31P	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.301
OM31P	DIELDRIN	0.534
OM31P	ENDOSULFAN SULFATE	0.589
OM31P	ENDRIN	0.56
OM31P	ENDRIN ALDEHYDE	0.728
OM31P	ENDRIN KETONE	0.853
OM31P	GAMMA BHC (LINDANE)	0.228
OM31P	GAMMA-CHLORDANE	0.297
OM31P	HEPTACHLOR	0.273
OM31P	HEPTACHLOR EPOXIDE	0.248
OM31P	METHOXYCHLOR	17
OM31P	PCB-1016 (AROCHLOR 1016)	10.4
OM31P	PCB-1221 (AROCHLOR 1221)	10.4
OM31P	PCB-1232 (AROCHLOR 1232)	10.4
OM31P	PCB-1242 (AROCHLOR 1242)	10.4
OM31P	PCB-1248 (AROCHLOR 1248)	3.02
OM31P	PCB-1254 (AROCHLOR 1254)	3.02
OM31P	PCB-1260 (AROCHLOR 1260)	3.02
OM31P	TOXAPHENE	20.7
OM31V	1,1,1-TRICHLOROETHANE	2.4
OM31V	1,1,2,2-TETRACHLOROETHANE	3.04
OM31V	1,1,2-TRICHLOROETHANE	2.59
OM31V	1,1-DICHLOROETHANE	2.32
OM31V	1,1-DICHLOROETHENE	2.34
OM31V	1,2-DICHLOROETHANE	2.82
OM31V	1,2-DICHLOROPROPANE	2.57
OM31V	2-HEXANONE	3.48
OM31V	ACETONE	3.81
OM31V	BENZENE	2.4
OM31V	BROMODICHLOROMETHANE	2.51
OM31V	BROMOFORM	2.72
OM31V	BROMOMETHANE	4.45
OM31V	CARBON DISULFIDE	2.34

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Method	Analyte	Method Detection Limit
OM31V	CARBON TETRACHLORIDE	2.23
OM31V	CHLOROBENZENE	2.21
OM31V	CHLOROETHANE	2.36
OM31V	CHLOROFORM	2.48
OM31V	CHLOROMETHANE	3.13
OM31V	CIS-1,3-DICHLOROPROPENE	2.4
OM31V	DIBROMOCHLOROMETHANE	2.43
OM31V	ETHYLBENZENE	2.17
OM31V	METHYL ETHYL KETONE (2-BUTANONE)	3.6
OM31V	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTA	2.62
OM31V	METHYLENE CHLORIDE	2.08
OM31V	STYRENE	2.29
OM31V	TETRACHLOROETHYLENE(PCE)	2.25
OM31V	TOLUENE	2.37
OM31V	TOTAL 1,2-DICHLOROETHENE	2.3
OM31V	TRANS-1,3-DICHLOROPROPENE	2.38
OM31V	TRICHLOROETHYLENE (TCE)	2.24
OM31V	VINYL CHLORIDE	2.48
OM31V	XYLENES, TOTAL	7.22
SW8270	1,2,4-TRICHLOROBENZENE	44.9
SW8270	1,2-DICHLOROBENZENE	48.5
SW8270	1,3-DICHLOROBENZENE	50.6
SW8270	1,3-DIETHYL-1,3-DIPHENYL UREA	126
SW8270	1,4-DICHLOROBENZENE	53
SW8270	2,2'-OXYBIS(1-CHLORO)PROPANE	69
SW8270	2,4,5-TRICHLOROPHENOL	33.2
SW8270	2,4,6-TRICHLOROPHENOL	133
SW8270	2,4-DICHLOROPHENOL	122
SW8270	2,4-DIMETHYLPHENOL	101
SW8270	2,4-DINITROPHENOL	154
SW8270	2,4-DINITROTOLUENE	35.8
SW8270	2,6-DINITROTOLUENE	37.7
SW8270	2-CHLOROBENZALDEHYDE	122
SW8270	2-CHLOROBENZOIC ACID	1390
SW8270	2-CHLORONAPHTHALENE	54.3
SW8270	2-CHLOROPHENOL	97.7
SW8270	2-METHYL-3-NITROANILINE	185
SW8270	2-METHYL-5-NITROANILINE	118
SW8270	2-METHYLNAPHTHALENE	101
SW8270	2-METHYLPHENOL (O-CRESOL)	83.6
SW8270	2-NITROANILINE	156
SW8270	2-NITRODIPHENYLAMINE	162
SW8270	2-NITROPHENOL	102
SW8270	3,3'-DICHLOROBENZIDINE	132
SW8270	3,5-DINITROANILINE	142
SW8270	3-CHLOROBENZALDEHYDE	75
SW8270	3-NITROANILINE	94.7
SW8270	4,6-DINITRO-2-METHYLPHENOL	155
SW8270	4-BROMOPHENYL PHENYL ETHER	60.2
SW8270	4-CHLORO-3-METHYLPHENOL	119
SW8270	4-CHLOROANILINE	125
SW8270	4-CHLOROBENZALDEHYDE	88.6
SW8270	4-CHLOROPHENYL PHENYL ETHER	33.9
SW8270	4-METHYLPHENOL (P-CRESOL)	129
SW8270	4-NITROANILINE	144

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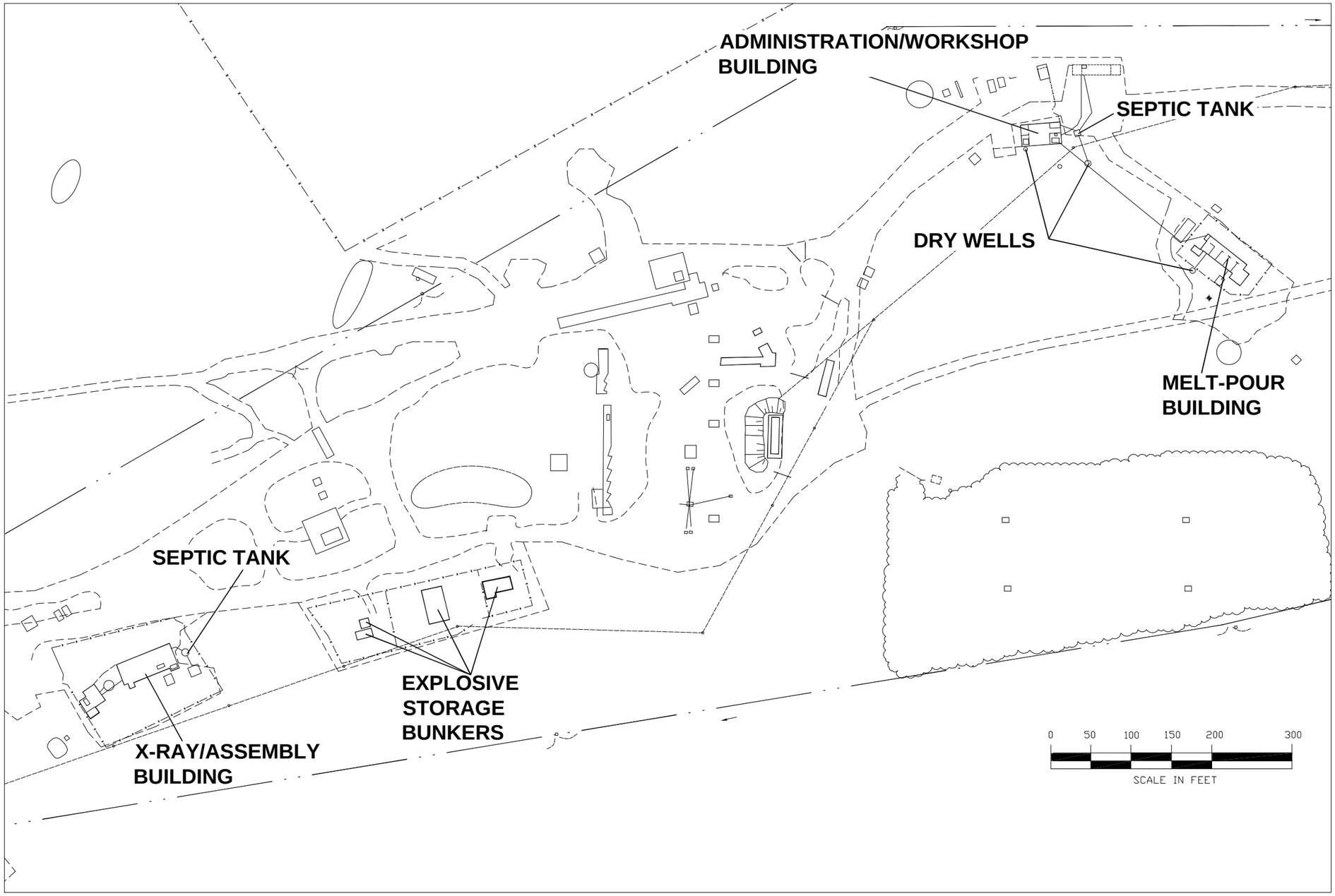
J-3 Range

Method	Analyte	Method Detection Limit
SW8270	4-NITROPHENOL	145
SW8270	ACENAPHTHENE	52.7
SW8270	ACENAPHTHYLENE	55.3
SW8270	ANILINE	68.9
SW8270	ANTHRACENE	41.7
SW8270	BENZO(A)ANTHRACENE	48.8
SW8270	BENZO(A)PYRENE	44.5
SW8270	BENZO(B)FLUORANTHENE	73.3
SW8270	BENZO(G,H,I)PERYLENE	66.8
SW8270	BENZO(K)FLUORANTHENE	47.6
SW8270	BENZOIC ACID	211
SW8270	BENZYL ALCOHOL	223
SW8270	BENZYL BUTYL PHTHALATE	45.7
SW8270	BIS(2-CHLOROETHOXY) METHANE	47.3
SW8270	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL	41.9
SW8270	BIS(2-ETHYLHEXYL) PHTHALATE	121
SW8270	CARBAZOLE	72.7
SW8270	CHRYSENE	46.8
SW8270	DI-N-BUTYL PHTHALATE	71.5
SW8270	DI-N-OCTYLPHTHALATE	74.8
SW8270	DI-N-PROPYL ADIPATE	120
SW8270	DIBENZ(A,H)ANTHRACENE	73.9
SW8270	DIBENZOFURAN	60.2
SW8270	DIETHYL PHTHALATE	31.6
SW8270	DIMETHYL PHTHALATE	39
SW8270	FLUORANTHENE	90.9
SW8270	FLUORENE	39.9
SW8270	HEXACHLOROBENZENE	51
SW8270	HEXACHLOROBUTADIENE	44.7
SW8270	HEXACHLOROCYCLOPENTADIENE	172
SW8270	HEXACHLOROETHANE	59.5
SW8270	INDENO(1,2,3-C,D)PYRENE	70.9
SW8270	ISOPHORONE	62.6
SW8270	N-NITROSODI-N-PROPYLAMINE	84.1
SW8270	N-NITROSODIMETHYLAMINE	61.9
SW8270	N-NITROSODIPHENYLAMINE	185
SW8270	NAPHTHALENE	46.4
SW8270	NITROBENZENE	91.3
SW8270	PENTACHLOROPHENOL	92
SW8270	PHENANTHRENE	42.6
SW8270	PHENOL	150
SW8270	PYRENE	43.2
TOC	TOTAL ORGANIC CARBON	0.104

Table 2
Parameters
Disposal Characterization
Precondition Sampling Workplan
J-3 Range

Parameter	Method
TCLP Metals	1311/6000
Volatile Organic Compounds	8260B
Semi-volatile Organic Compounds	8270
TCLP Pesticides	1311/8081
TCLP Herbicides	1311/8151
TPH by GC	8100M
PCBs	8080
Ignitability/Flashpoint	1010
Corrosivity/pH	9045
Reactive Sulfide	7.3.4.1
Reactive Cyanide	7.3.1.2
Free Liquids/Paint Filter	9095



NOTES:
SOURCE: TEXTRON SYSTEMS DIVISION, FACILITIES ENGINEERING
ALL LOCATIONS ARE APPROXIMATE.

Harding ESE
A MACTEC Company
Harding ESE, Inc.
107 Aububon Road
Building II, #301
Wakefield, MA 01880
781-245-6606

TITLE

FIGURE 1
PRECONDITION SAMPLING LOCATIONS
J-3 RANGE SITE MAP
CAMP EDWARDS, MASSACHUSETTS

PROJ. NO.	52123.2			REV.
DWG. NO.	46854AAAA.dwg	DWG.	1/2/02	